

On the problem of automation of the...

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where v_1 and v_2 are the rated and the actual (ignoring the water steam content) volume of combustion products, in m^3/hr ; CO_1 ; O_1 ; N_1 - the rated composition of combustion products, %/100; CO_2 ; O_2 ; N_2 ; CO'' - the actual composition of combustion products, %/100; v_3^1 and v_3'' - the respective CO_2 and CO volume liberated from the bath, in m^3/hr ; v_4 - the oxygen volume consumed in the work space (apart from fuel combustion), in m^3/hr ; v_5 - the oxygen volume consumed by the bath, in m^3/hr ; v_6 - the oxygen quantity consumed by burning up CO, m^3/hr ; v_7 - the volume of CO not burned up in the work space, m^3/hr ; v_8 - the volume of CO burned up in the work space, m^3/hr ; $\alpha = \frac{v_3^1}{v_3''}$ - a coefficient accounting for the composition of the gas liberated from the bath and being relatively indefinite. The real smoke quantity is found by adding the water content derived from the humidity of fan air, the fuel composition, and the consumption of atomized fuel mist (if the furnace is working with liquid fuel). A practical calculation is presented and the results are suggested to be used in the setting up of momentary heat balances. Conclusions: 1) At present, the best control system for heat process in open-hearth furnace is a system that is based on the principle of deter-

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mining the temperature variation rate in a furnace brickwork element. It reacts automatically to the changing heat loss in the working space, changing heat absorption by the charge, and to incompleteness of the fuel combustion. 2) The suggested calculation method may be used in the development of an automatic heat control system.

ASSOCIATION: Magnitogorskiy metallurgicheskiy kombinat (Magnitogorsk Metallurgical Combine)

SUBMITTED: April 4, 1960

Card 5/5



VORONOV, F.D.; TRIFONOV, A.G.; KHUSID, S.Ye.; DIKSHTEYN, Ye.L.; VAL'PITER, E.V.
SNEGIREV, Yu.B.; ANTIPIN, V.G.; Prinimali uchastiye: SHIRKOV, L.A.;
KAZAKOV, A.I.; YELIZAROV, A.G.; KULAKOV, A.M.; KOZHANOV, M.G.;
ZARZHITSKIY, Yu.A.; ARTAMONOV, M.P.; GOL'DENBERG, I.B.; ROMANOV,
V.N.; NOVIKOV, S.M.; MAYEVSKIY, A.B.; DMITRIYEV, I.; MANZHULA, M.;
BEREZOVAY, I.A.; ZUTS, K.A.; BADIN, S.N.; TAT'RINTSEV, G.;
MITROFANOV, N.G.; GAVRILOVA, K.M.; IVANOV, N.I.

Operating a 400-ton open-hearth furnace on casing-head gas.
Stal' 20 no. 7:594-598 Jl '60. (MIRA 14:5)
(Open-hearth furnaces--Equipment and supplies)

ANTIPIN, V. G., Cand. Tech. Sci. (diss) "On Interconnections of Technological and Thermal-technical Parameters of Open-Hearth Pouring," Magnitogorsk, 1961, 21 pp (Magnitogorsk Mining-Metallurg. Inst.) 150 copies (KL Supp 12-61, 262).

ANTIPIN, V.O.

Dust formation in the hearth of a large-capacity open-hearth furnace.
Izv. vys. ucheb. zav.; chern. met. no.2:39-44 '61. (MIRA 14:11)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Open-hearth furnaces) (Fly ash)

ANTIPIN, V.G.; BIGEYEV, A.M.

Oxidizing properties of open-hearth furnaces. Izv. vys. ucheb.
zav.; chern. met. 4 no.10:37-41 '61. (MIRA 14:11)

1. Magnitogorskiy gornometallurgicheskiy institut.
(Open-hearth furnaces) (Oxidation)

S/133/61/000/003/002/014
A054/A033

AUTHORS: Dikshteyn, Ye. I.; Goncharevskiy, Ya. A.; Zuts, K.A.; Antipin, V. G.; Kozhanov, M. G.; Zarzhitskiy, Yu. A.; Kulakov, A. M.

TITLE: Mastering the operation of a 500-ton open-hearth furnace fired by coke-oven gas and mazut

PERIODICAL: Stal', no. 3, 1961, 210 - 214

TEXT: The 500-ton open-hearth furnace designed by the "Stal'proyekt" operates according to the scrap-ore process and is fired by cold coke-gas (4100 cal/m³) and mazut (9600 cal/kg). The principal data of the furnace are: charge 500 - 550 tons, hearth area 105 sq m, depth of the bath 1.2 m, height (over the altar level) of the crown 3.15 m, of the air partition 1.35 (1.2) m, of the burner axis 1.30 (1.6) m, useful volume of slag chamber 142 m³, stack height 90 m. The results obtained by the furnace design and firing system could be improved by incorporating several modifications. For instance, there are two gas-mazut burners, one on either side of the furnace. This is a simple structural solution but did not prove very effi-

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cient. By applying two or three burners on either side of the furnace this situation could be improved. The blast produced is not enough to ensure the heat conditions required. The vacuum produced by the stack and wasteheat boiler (60 and 75 mm water column, respectively) is inadequate to efficiently evacuate the gaseous combustion products from the operating area of the furnace. The efficiency of the blast system is unfavourably affected by losses in the cold-air exhaustion system through the slag chambers, which require a better insulation. The heat transfer capacity of the torch was also unsatisfactory. Carbon monoxide in the combustion products in the vertical channel already disappeared when there was 3 - 3.5 % oxygen present, indicating an inadequate mixing of fuel and air. In order to improve the mixing and radiation capacity of the torch, compressed air was introduced separately through a special tube. This, however, did not solve the problem and had to be put down to the wrong type of feed-opening. Tests were also carried out to raise the heating capacity of the torch by improving the operation of the pulverizer, by means of increasing its capacity, i.e., the consumption of high-pressure steam in the pulverizer. The radiation capacity of the torch for cold coke-gas and mazut depends largely on the ratio at which these two fuels are consumed. For the furnace in question the optimum

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condition for the torch was obtained when 1700 - 1800 kg/h mazut was consumed and when the thermal load of the furnace amounted to 40 mill. cal/h, (Fig. 6). Tests carried out to improve the furnace operation by increasing the heat load to 50 mill.cal/h only resulted in greater wear, without improving the operational conditions. Actual improvement was obtained by decreasing heat losses through the stoke holes, amounting to 2 mill.cal/h, by a suitable insulation and by feeding 1800 - 2000 Nm³/h compressed air into the torch, thus increasing its temperature to 1850°C and distributing it more uniformly along the torch. By increasing the heating capacity of the torch, the time required for the optimum heating of the charge and for burning out carbon was reduced. By intensifying the thermal conditions of the furnace, desulfurization became more intensive and it was possible to smelt 08 kn (08kp) grade steel in the furnace. Although the reconstruction of the furnace and the application of modifications improved and stabilized the operation of the 500-ton mixed fuel furnace, the burner system will still have to be modified and a suitable method to be applied for preparing the gas, in order to change over from mixed fuel to gas-firing only. There are 9 figures and 2 tables.

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GONCHAREVSKIY, Ya.A.; ANTIKIN, V.G.; OVCHINNIKOV, G.Ye.; KOZHANOV, M.G.

Operation of high-capacity open-hearth furnaces with single-channel ports. Stal' 22 no.8:705-709 Ag '62. (MIRA 15:7)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Open-hearth furnaces)

VORNOV, F.D.; BIGEYEV, A.M.; DIKSHTEIN, Ye.I.; TRIFONOV, A.G.; KAZAKOV, A.I.; KOROLEV, A.I.; BORODIN, G.L.; ANTIPIK, V.G.; KULAKOV, A.M.; KOZHANOV, M.G.; GAZHUR, V.F.

Investigating the operation of 400-ton open-hearth furnaces
following redesign. Stal' 22 no.10:904-907 0'62. (MIRA 15:10)

1. Magnitogorskiy metallurgicheskiy kombinat i Magnitogorskiy
gorno-metallurgicheskiy institut.
(Open-hearth furnaces)

KOZHANOV, M.G.; NECHKIN, M.G.; ANTIPIN, V.G.; PONOMAREV, Yu.Yu.

Rapid fritting of new bottoms in large-capacity open hearth furnaces. Metallurg 7 no.9:13-15 S '62. (MIRA 15:9)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Open-hearth furnaces--Maintenance and repair)

ANTIPIN, V.G.; BIGHEEV, A.M. [Bigeyev, A.M.]

Oxidizing capacity of Martin furnaces. Analole metallurgie 16
no.2:45-50 Ap-Je '62.

ANTIPIN, V. G.; BIGEYEV, A. M.

Regularities of the passage of oxygen from the gaseous phase into
the open-hearth bath. Izv. vys. ucheb. zav., chern. met. 7 no. 5:
33-39 '64. (MIRA 17:5)

1. Magnitogorskiy gorno-metallurgicheskiy institut.

...in the meeting of the Soviet part of the diplomatic corps. Izv.
V SSSR Pts., nov. no. 511-74 '65. (MIRA 1986)

1. Lvovskiy filial Institute geofiziki AN UkrSSR.

ANTIPIN, V.I., aspirant-sachnik.

Russia, U.S.S.R.

Eliminating paratyphoid fever in swine. Veterinariia 34 no.5:29-32
May '57. (MIRA 10:6)

1. Vsesoyuznyy institut eksperimental'noy veterinarii.
(Swine--Diseases and pests) --(Paratyphoid Fever)

ANTIPIN, V. I., aspirant-zaochnik

Importance of vaccination of sows during farrowing in the overall prophylaxis of paratyphoid in young pigs. Veterinariia 36 no. 7: 45-49 J1 '59. (MIRA 12:10)

1. Vsesoyuznyy institut eksperimental'noy veterinarii.
(Paratyphoid fever) (Vaccination)
(Swine--Diseases and pests)

ANTIPIN, V.I.; BUDANOV, N.D.; KOTLUKOV, V.A.; LEYBOSHITS, A.M.;
PROKHOROV, S.P., kand.geol.-miner.nauk; SIKMAN, A.F.;
FALOVSKIY, A.A.; SHTEYN, M.A.; BASKOV, Ye.A.; BOGATKOV,
Ye.A.; GANEYEVA, M.M.; ZARUBINSKIY, Ya.I.; IL'INA, Ye.V.;
KATSIXAYEV, S.K.; KOMPANIYETS, N.G.; NELYUBOV, L.P.;
PONOMAREV, A.I.; REZNICHENKO, V.T.; RULEV, N.A.; TSELIGOROVA,
A.I.; ALSTER, R.K.; SHVETSOV, P.F.; VYKHOIMSEV, A.F.; KOTOVA,
A.I.; KASHKOVSKIY, G.N.; LOSEV, F.I.; ROMANOVSKAYA, L.I.;
PROKHOROV, S.P.; MATVEYEV, A.K., dots., retsentent; CHEL'TSOV,
M.I., inzh., retsentent; KUDASHOV, A.I., otv. red.; PETRYAKOVA,
Ye.P., red. izd-va; IL'INSKAYA, G.M., tekhn. red.

[State of flooding and conditions for the exploitation of coal-bearing areas in the U.S.S.R.] Obvodnennost' i usloviia ekspluatatsii mestorozhdenii ugol'nykh raionov. Pod nauchn. red.
S.P. Prokhorova. Moskva, Gosgortekhizdat, 1962. 243 p.

(MIRA 15:7)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrogeologii i irzhenernoy geologii. 2. Kafedra geologii i geo-khimii goryuchikh iskopayemykh Moskovskogo Gosudarstvennogo universiteta (for Matveyev).

(Coal geology) (Mine water)

ANTIPIN, V.I.

Ways to increase specialisation of sanitary engineering and
electric wiring work. Transp. stroi. 12 no.12:31-32 D '62.
(MIRA 16:1)

1. Starshiy inzh. Vsesoyuznogo nauchno-issledovatel'skogo
instituta transportnogo stroitel'stva Ministerstva transportnogo
stroitel'stva.
(Sanitary engineering) (Electric wiring)

ACC NR: A76026553

SOURCE CODE: UR/2775/06/000/0.6/0099/0/0/0/0

AUTHOR: Boikova, S. I.; Boyarskikh, V. A.; Antipov, V. M.; Pirogova, Z. N.;
Okorokov, G. N.; Gulyay, G. G.

44

ORG: nono

TITLE: Structure and properties of alloy EI437B smolted in a vacuum induction furnace

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.
Sbornik trudov, no. 46, 1966. Spetsial'nyye stali i splavy (Special steels and alloys),
99-104

TOPIC TAGS: alloy, vacuum arc furnace, vacuum melting / EI437B alloy

ABSTRACT: The effect of aluminum and titanium additions on the properties of the heat-resistant alloy EI437B, smolted in a vacuum induction furnace, was investigated. The study was prompted by the fact that the alloy smolted by the Chelyabinsk and Zlatoust Metallurgical Plants using vacuum induction furnaces was inferior to the alloy smolted in open arc furnaces. The experimental results are presented in graphs and tables (see Fig. 1). It was found that to insure high mechanical qualities of the alloys smolted in vacuum induction furnaces, the aluminum content should be

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L 67952-57

ACC NR: A70026553

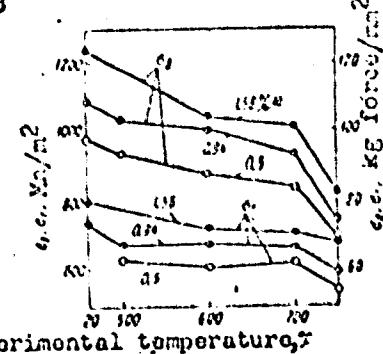


Fig. 1. Mechanical properties of alloy Ni₃₇B as a function of the testing temperature. Quenching from 1080°C, annealed for 16 hrs, cooled in air, and aged for 16 hrs at 700, cooled in air.

0.8--1.0% and the titanium content 2.7--3.0% respectively. Orig. art. has: 3 tables and 4 graphs.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 008

ANTIPIN, V.M.

Ecology, origin, and distribution of argali. Izv.AN Kazakh. SSR.Ser.zool.
no.6:3-22 '47. (Kazakhstan--Argali) (MIRA 9:6)

28993 K Voprosu o migratsii lastenogikh po sushe. Priroda, 1941, No. 2, S. 77-78

SC: Letopis' Zhurnal'nykh Statey, Vol. 39, Moskva, 1949

1. ANTIFIN, V. V.
2. USSR (600)
4. Birds - Novaya Zemlya
7. Bird colony in the northeast of Novaya Zemlya. Priroda 42, no. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

1. ANTIPOV, V. M.
2. USSR (600)
4. Panthers
7. Ecology of the panther. Priroda 42, No. 4, 1953.
9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

ANTIPIN,V.M., kandidat biologicheskikh nauk (Kzyl-Orda)

Ecology of goitered gazelles and male saigas. Priroda 44
no.7:117 Jl '55. (MIRA 8:9)
(Soviet Central Asia--Gazelles) (Soviet Central Asia--
Saiga)

ANTIPIN, V.M.

Brief description of the land vertebrates in the Kara Tau range.
Biul. MOIP, Otd. biol. 60 no.1:33-38 Ja-F '55. (MLRA 8:7)
(Kara Tau--Vertebrates)

ANTIPIN, V.M.

Recent data on the bird fauna of the lower Syr Darya Valley. Zool.
zhur. 40 no.7:1104-1106 Jl '61. (MIRA 14:7)

1. State Pedagogical Institute of the town of Kzyl-Orda.
(Kzyl-Orda Province—Birds)

ANTIPIN, V.N.

Volcanic glass in the T^Sagan Khurtey Range. Izv. vys. ucheb. zav.;
geol. i razv. 1 no.12:71-79 D '58. (MIRA 12:12)

1.Irkutskiy gornometallurgicheskiy institut.
(T^Sagan Khurtey Range--Glass)

ANTIPIN, V.N.

Concerning the classification of mineral products. Izv. vys.
ucheb. zav.; vol. i razv. 7 no.12:64-68 D '64. (MIRA 18:12)

1. Irkutskiy politekhnicheskiy institut.

S/193/61/000/006/001/007
A004/A104

AUTHORS: Dikahteyn, Ye. I.; Antipin, V. S., and Kozhanov, M. G.

TITLE: The operation of open-hearth furnaces with single-channel ports

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 6, 1961, 3-6

TEXT: One of the plants of the Russian Federation has introduced 500-ton open-hearth furnaces with single-channel ports fuelled by a mixture of cold coke gas and mazout. The furnaces are operated on the scrap-ore process utilizing 6% of liquid pig iron. They are lined with basic refractories, slag pocket and regenerator roofs are of the massive suspension type. The coke oven gas with a calorific value of 4,100 kcal/nm³ is supplied through a 400 mm diameter gas pipeline at a pressure of 3,000 mm water column to the burners with a reduced pressure of 1,000-1,500 mm water column. The mazout with a calorific value of 9,600 kcal/hour, containing 0.5-1.5% sulfur, is supplied to the furnace at a pressure of 6-7 atm. The mazout is atomized at a pressure of 10 atm and a temperature of 200°C. Reversible dampers of the Shvir system 2,200 mm in diameter are used which do not fully meet the requirements of modern big-volume open-hearth furnaces, but, according to the authors, hitherto no more expedient type of damper has been

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The operation of open-hearth furnaces ...

developed. Fig. 1 shows the structural changes which have been carried out to improve the furnace operation. Legend to Fig. 1: 1) prior to repair; 2) after repair; 3) gas-mazout burner installation. The heat losses through the breast were reduced nearly by a factor of 4 and amounted to $0.5 \cdot 10^6$ kcal/hour. The compressor air pressure was raised from 2 to 5 atm. As a result of these alterations the absolute flame temperature increased by 50°C and more, while the maximum heating zone moved nearer to the flame root. Tests showed that it is necessary to supply $1,800 - 2,000 \text{ m}^3$ air per hour. The modernization of the port made it possible to increase the furnace efficiency by 15.6% and cut down the heat consumption for the steel production by 19.5%. A great influence on the efficacy of the gas-mazout flame of open-hearth furnaces with single-channel ports is exerted by the height of the air damstones and by the angle of inclination of the burners. Various angles in the range of $8-13^\circ$ relative to the bath level were tested and it was found that the maximum heat transfer was obtained with great angles of inclination of the burners. On one of the furnaces the burner design was altered in such a way that the mazout was not supplied through a sprayer located in the center of the gas burner but through two sprayers cut in the body of the breast, which resulted in a higher flame radiation. The table shows the distribution of thermal loads during the different heating periods prior to the

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The operation of open-hearth furnaces ...

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alterations of the port design and after.

Table:

1) operation; 2) prior to port alteration; 3) after port alteration;
4) filling; 5) charging; 6) heating up; 7) pig iron pouring and 1st hour
of melting; 8) melting; 9) end of melting; 10) finishing.

1) Операции	До изменения	После измене-
	2) головок	3)ния головок
4) Заправка	32·10 ⁴	—
5) Завалка	40·0·10 ⁴	48·10 ⁴
6) Прогрев	40·0·10 ⁴	44·10 ⁴
7) Сырая чугунка и 1-й час плавления . . .	38·0·10 ⁴	40·10 ⁴
8) Плавление	34·0·10 ⁴	36·10 ⁴
9) Конец плавления	36·0·10 ⁴	—
10) Довоалка	38·0·10 ⁴	40·10 ⁴

The maximum flame radiation is attained at a heat consumption of mazout of 42-45% relative to the total thermal load. After the port design had been altered the heating capacity of the furnace increased, which made it possible to cut down the heating up period of the charge prior to the pig iron pouring from 2 to 1.5 hours. Increasing the thermal loads, the optimum values for the coefficients of

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excess air in the supply ports during the melting process were determined as follows: filling - 1.20; heating up - 1.20; pig iron pouring - 1.50; melting - 1.40; finishing - 1.10-1.05. The regenerator checkers of open-hearth furnaces operating on cold coke gas have to be systematically cleaned and the dust removed from the sub-checker space. With rapid charging, i. e. in less than 2 hours, it is expedient to increase the thermal load during this period up to $48 \cdot 10^6$ kcal/hour. There are 2 figures and 1 table.

Card 4/4

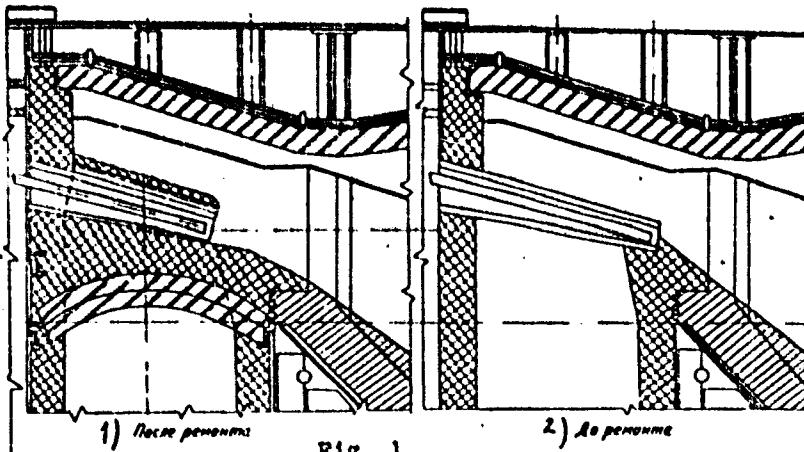


Fig. 1

Рис. 1. Установка газоокислительной горелки 1)

LEBEDEV, S.A., inzh.; ANTIPIN, V.V., inzh.; MYAKOV, Yu.A., inzh.

Determining the quantity of ash and residue in furnaces by
means of nomograms. Energetika 8 no.3:8-9 Mr '60.

'MIRA 13:6)

(Nomography (Mathematics)) (Furnaces)

ANTIPIN, Ye.B., gorny inzhener-elektromekhanik; YESENIK, N.I., gorny inzhener-elektromekhanik.

New automatic control to limit the speed of hoisting machines.
Gor.zhur. no.10:61-63 O '56. (MLRA 9:12)
(Mine hoisting) (Automatic control)

SOV/80-32-2-48/56

AUTHORS: Kuznetsov, V.A., Antipina, A.A., Buryakovskaya, R.I.

TITLE: Investigation of the Specific Electric Conductivity of Aqueous Solutions NaCl_{sat} + NaOH in the Temperature Range 75 - 95°C
(Issledovaniye udel'noy elektroprovodnosti vodnykh rastvorov NaClNAS + NaOH v oblasti temperatur 75 - 95°)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol XXXII, Nr 2,
pp 456-458 (USSR)

ABSTRACT: The specific electric conductivity of saturated NaCl + NaOH solutions is very important for the electrolysis of salt solutions. Experiments were carried out at temperatures of 75, 80, 85, 90 and 95°C. The results are shown in a table. There is 1 Soviet reference.

ASSOCIATION: Ural'skiy Gosudarstvennyy universitet imeni A.M. Gor'kogo
(Ural State University imeni A.M. Gor'kogo)

SUBMITTED: September 23, 1957

Card 1/1

KARGIN, V.A.; MIRLINA, S.Ya.; ANTIPINA, A.D.

Electrochemical properties and shapes of the molecules of acrylic acid and ethylenesulfonic acid copolymers. Vysokom. soed. 1 no.9: 1428-1427 8 '59. (MIRA 13:3)

1. Moskovskiy gosudarstvennyy universitet im. Lomonosova.
(Acrylic acid) (Ethylenesulfonic acid)

ANTIPINA, A.I., ordinator

Errors in the diagnosis of diseases of the organs of the abdominal cavity in patients with bone tuberculosis. Vop. epid. i klin. tub. 5:255-258 '58. (MIRA 14:12)

1. Respublikanskiy kostno-tuberkuleznyy sanatori. (BONES--TUBERCULOSIS) (ABDOMEN--DISEASES)

Гирголав, Г.М.

GIRGOLAV, G.S., professor; BLINOV, N.I., professor; BALAKINA, V.S.,
professor; KEMEL'NITSKIY, O.K., kandidat meditsinskikh nauk;
BRIGEMNIK, Ye.V., kandidat meditsinskikh nauk; BOYKO, E.K., kandidat
meditsinskikh nauk; BYSTROVA, V.V., kandidat meditsinskikh nauk;
VLASOVA, Z.A., kandidat meditsinskikh nauk; ANTIPIKA, A.N., nauchnyy
sotrudnik

Petr Vasil'evich Sipovskii. Arkh.pat. 18 no.8:131-132 '56. (MLRA 10:2)

1. Deyatel'nyy cheln AMN SSSR (for Girgolav). 2. Direktor
Instituta usovershenstvovaniya vrachey imeni S.M.Kirova (for Blinov).
3. Direktor Manchno-issledovatel'skogo instituta travmatologii i
ortopedii (for Balakina)

(SIFOVSKII, PETR VASIL'EVICH)

ANTIPINA, A.N.; ZEMLYANOY, A.G.

General morphological characteristics of the healing of closed fractures in radiation sickness. Med. rad. 2 no.1:70-79 Ja-P '57
(MLRA 10:5)

1. Iz patologoanatomicheskoy laboratorii (zav.-prof. P.V. Sipovskiy) Leningradskogo nauchno-issledovatel'skogo instituta travmatologii i ortopedii, 3-y khirurgicheskoy kliniki (zav.-prof. N.I. Blinov) i kafedry radiologii (zav.-prof. M.N. Pobedinskiy) Gosudarstvennogo ordena Lenina instituta usovershenstvovaniya vrachey imeni S.M. Kirova.

(ROENTGEN RAYS, inj. eff. inhib. of closed fract. healing
in rabbits)

(FRACTURES, eff. of radiations on
inhib. of healing by x-irradiation in rabbits)

SIPOVSKIY, P.V., ANTIPINA, A.N. (Leningrad)

Changes in bone tissue after prolonged exposure to pressure.
Eksper.khir. 3 no.5:60-61 S-0 '58 (MIRA 11:11)
(PHOTURES, exper.
eff. of metal pin on bone tissue in rabbits (Rus))
(BONES AND BONES, physiology
eff. of prolonged pressure by metal nail (Rus))

ANTIPINA, A.N.

Proliferation of epithelium in bone tissue. Trudy Len.gos.nauch.-
issl.inst.travn.i ortop. no.7:26-29 '58. (MIRA 13:6)

1. Iz patologoanatomicheskogo otdeleniya Leningradskogo gosu-
darstvennogo nauchno-issledovatel'skogo instituta travmatolo-
gii i ortopedii.

(TIBIA--FRACTURE) (EPITHELIUM)

ANTIPINA, A.N.

Clinical and radiological characteristics of the healing of infected fractures of the long bones in radiation disease in experimental animals. Trudy Len.gos.nauch.-issl.inst.travm.i ortop. no.7:48-60 '58.
(MIRA 13:6)

1. Is patologoanatomiceskogo i rentgenologicheskogo otstreleniya Leningradskogo gosudarstvennogo nauchno-issledovatel'skogo instituta travmatologii i ortopedii.
(EXTREMITIES (ANATOMY)--FRACTURES) (RADIATION SICKNESS)

ANTIPINA, A. N.

Cand Med Sci - (diss) "Healing of infixated Infitsirovannye⁷ fractures of long tubular bones in radiation disorder in animals treated with streptomycin." Leningrad, 1961. 17 pp; (Ministry of Public Health USSR, Central Scientific Research Inst of Medical Radiology); 250 copies; price not given;(KL, 5-61 sup, 200)

ANTIPINA, A.N.

Morphological characteristics of the course and healing of infected
bone fractures in radiation sickness in animals treated with
streptomycin. Trudy Len.gos.nauch.-issel.inat.travm.i ortop.
no.8:187-201 '61. (MIRA 15:9)
(FRACTURES) (RADIATION SICKNESS) (STREPTOMYCIN)

SIPOVSKIY, P.V. [deceased]; ANTIPIA, A.N. (Leningrad)

Morphological characteristics of the thyroid gland in practically healthy residents of Leningrad. Arkh. pat. 25 no.11:58-67 '63.

1. Iz kafedry patologicheskoy anatomi (zav. - prof. P.V.Sipovskiy [deceased]) Leningradskogo instituta usovershenstvovaniya vrachey imeni S.M.Kirova. (MIRA 17:12)

ANTIPINA, A. N. "Healing of Infected Fractures of Long Hollow Bones During Radiation Sickness in Animals Treated with Streptomycin." The use of streptomycin for infected bone fractures greatly increased the viability of irradiated rabbits in comparison with rabbits not so treated.

Original document received at National Bureau of Radiological Research, Nov. 1, 1944. The document does not state specifically what degree was absorbed. The annotations indicate a study on the effects of radiation on physiology, regeneration, pharmacology, and toxicology, and the influence of radiation on regenerative processes, particularly in muscle, bone, skin, and radiation pharmacology.

SAMSONOV, V.A.; ANTIFINA, A.N. (Leningrad)

Osteoid osteoma. Arkh. pat. 27 no. 5815-19 '65.

1. Leningradskiy nauchno-issledovatel'skiy institut travmatologii
i ortopedii (dir. - prof. V.S.Bal'kina). (MIRA 18:5)

ANTIPINA, D. N.

Veterinary Medicine

Helminthiasis in farm animals.
Veterinaria 29, no. 5, 1952.

Monthly List of Russian Accessions, Library of Congress, August 1952. UNCLASSIFIED.

ANTIPINA, F. A.

"Etiology, Pathogenesis, and Clinical Course of Acute Hematotic Hepatitis (Botkin's Disease) in Children, and the Significance of Reactivity of the Child's Organism in this Ailment." (Dissertation for Degree of Candidate of Medical Sciences) Leningrad Pediatric Medical Inst, Leningrad, 1955

SO: M-1036 28 Mar 56

ANTIPINA, E.A.

Characteristics of the renal function in diseases of the blood in children. Vop. genet. v pediat. no.3:83-89 '62.

Problem of leukemoid reactions in children. Ibid.:271-275

(MIRA 18:7)

ABDULAZIZ, A.M.; ABDELLAH, B.A.

Incidence of Lymphogranulomatosis in a Tropical Hospital.
Vop. gemat. v. pediat. no.3; 191-194 1971.

(SAC-187)

KUKTANTSOVA, V.V.; ANTIPOVA, E.P.

Determining the content of nickel in anickel alloy by the colorimetric method. Trudy Bash NII no.5:31, 319, 1961.

1. Order of Lenin Ufimskiy naftoperekhodnyy plant is proved. (NII 15.10)

S/191/60/000/011/009/016
B013/B054

AUTHORS:

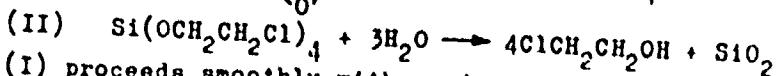
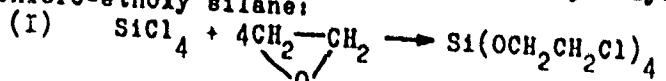
Antipina, G. N., Andrianov, K. A., Zhinkin, D. Ya.

TITLE:

Method of Producing Anhydrous Ethylene Chlorohydrin

PERIODICAL: Plasticheskiye massy, 1960, No. 11, pp. 39-41

TEXT: The authors suggest a new method of producing pure, anhydrous ethylene chlorohydrin which is based on the reaction of silicon tetra-chloride with ethylene oxide, and subsequent hydrolysis of the resulting tetra- β -chloro-ethoxy silane:



Reaction (I) proceeds smoothly with gradual heating of the reaction mixture to 30° - 35°C. Optimum reaction temperature was 60 - 80°C, reaction time was about 20 hours. The reaction was conducted in a laboratory plant. Other experiments were made in a pilot plant. The reaction time was longer with a larger volume. Reaction (II) proceeds quickly and smooth-

Card 1/2

Method of Producing Anhydrous
Ethylene Chlorohydrin

S/191/60/000/011/009/016
B013/B054

ly at 98° - 100°C with subsequent distillation of ethylene chlorohydrin. Its laboratory yield was 70 - 80%. Table 1 gives the fractions obtained in ethylene chlorohydrin distillation. The characteristic of fraction III corresponds to that of ethylene chlorohydrin. Fractions I and II containing a considerable amount of hydrogen chloride were distilled for a second time (Table 2). Fraction III from the first distillation, and fraction II from the second, yielded together a sufficiently pure, anhydrous ethylene chlorohydrin. Similar experiments on a pilot plant gave the fractions given in Table 3 by the second distillation. In this case, the yield of pure ethylene chlorohydrin was 69%. There are 1 figure, 3 tables, and 6 references: 3 Soviet, 1 US, 1 French, and 1 German.

Card 2/2

5(4)

SOV/79-29-8-16/81

AUTHORS:

Lebedev, O. L., Antipina, I. V., Kazarnovskiy, S. N.,
Lebedeva, V. V.

TITLE:

Catalytic Oxidation of Cyclohexylamine by Means of Hydrogen Peroxide Into the Oxime of Cyclohexanone

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 8, pp 2534-2536
(USSR)

ABSTRACT:

In the synthesis of the oxime of cyclohexanone which is used in the manufacture of caprone, the oxidation of cyclohexylamine with hydrogen peroxide in the presence of catalysts can be applied. Cyclohexylamine is easily obtained by hydrogenation of aniline. The purpose of the present paper was the oxidation of cyclohexylamine to form the oxime of cyclohexanone by means of hydrogen peroxide. The following reagents were used: 98% cyclohexylamine with a boiling point of 135°, obtained by hydrogenation of aniline; 30% hydrogen peroxide dissolved in water; ammonium tungstate and ammonium molybdate. The oxime formed in the reaction was determined colorimetrically (Ref 9). In the oxidation of cyclohexylamine, a number of catalysts were used which combine with H₂O₂: the salts of the uranic, vanadic,

Card 1/3

SOV/79-29-8-16/81
Catalytic Oxidation of Cyclohexylamine by Means of Hydrogen Peroxide Into the
Oxime of Cyclohexanone

molybdic and tungstic acid. The first two are not active. Figure 1 presents the results of the oxidation of cyclohexylamine in the presence of the molybdates and tungstates. The ammonium tungstate shows the highest activity in the presence of trilon B. By a catalyst deficiency with respect to H_2O_2 the oxime formation is reduced, on excess catalyst it does not increase. Thus the reaction of the catalyst with H_2O_2 plays an important part in the oxidation. In the process of oxidation the grouping E-OOH (or EOO⁻) is the oxidizing agent, in which E represents one of the atoms C, S, W, Mo. Pertungstate seems to be most suitable for the above-mentioned synthesis. The influence exerted by the concentration of trilon B upon the yield of the oxime is shown in figure 2. The experiments showed that trilon B acts as a stabilizer of H_2O_2 in which it suppresses the side reaction, i.e. its decomposition. With an increasing quantity of H_2O_2 , also the yield of the oxime increases up to 58%, but only in the presence of tungstate. On addition of trilon B,

Card 2/3

Catalytic Oxidation of Cyclohexylamine by Means of Hydrogen Peroxide Into the SOV/79-29-8-16/81
Oxime of Cyclohexanone

the yield increases up to 80% in which case only half of the hydrogen peroxide is needed (Fig 3). There are 3 figures and 13 references, 9 of which are Soviet.

ASSOCIATION: Gor'kovskiy politekhnicheskiy institut (Gor'kiy Polytechnic Institute)

SUBMITTED: February 20, 1958

Card 3/3

Analyst A - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst B and RESEARCHER A.A. -
Analyst C - On exchange of species in solutions (Section 1)
Analyst D - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst E - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst F - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst G - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst H - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst I - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst J - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst K - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst L - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst M - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst N - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst O - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst P - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst Q - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst R - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst S - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst T - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst U - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst V - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst W - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst X - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst Y - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)
Analyst Z - On the theory of conductive substances of heterovalent and degenerate valence (Section 1)

Report to be presented at the 2nd All-Union Conference on Chemistry, Paris, France, April

ANTIPINA, I. V. KAZANOVSKIY, S. N.; Prinimala uelastiv: IEREREVA
V. V.

Oxidation of cyclohexylamine by hydrogen peroxide to cyclohexanone
oxime. Khim prom no. 3:165-170 Mr '64. (MIRA 17:5)

ABRAMZON, S.M.; ANTIPINA, K.I.; VASIL'YEVA, G.P.; MAKHOVA, Ye.I.; SULAYMANOV, D.
DEMIN, A.Y., red.ind-ra; KASHINA, P.S., tekhn.red.

[The life of collective farmers in the Kirghiz villages of Darkhan
and Chichkan] Byt kolkhoznikov, kirgizskikh selenii Darkhan i
Chichkan. Moskva. Izd-ve Akad. nauk SSSR. 1958. 322 p. (Akademika
nauk SSSR. Institut etnografii. Trudy, vol. 37). (MIRA 11:8)
(Darkhan--Collective farms) (Chichkan--Collective farms)

"APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000101720004-6

ANTIFINA, K. I.; EREMENKOV, A.; MAMETALIYeva, K.

"Narodnye traitsii v sovremennoy material'noy kul'ture i prikaznom
iskusstve Kirgizii."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences,
Moscow, 3-10 Aug 64.

APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000101720004-6"

OMAROV, Alim Magomedovich, kand. ekon. nauk; ANTIPINA, L., red.;
KURLYKOVA, L., tekhn. red.

[School of management] Shkola khoziaistvovaniia. Moskva,
"Molodaia gvardiia," 1963. 382 p. (MIRA 16:12)
(Industrial management)

IGNAT'YEV, Oleg Konstantinovich; ANTIPLA, L., red.; LESHCHINSKAYA, G.,
tekhn. red.

[Brazil, the giant of the tropics; notes of a correspondent]
Brazilia - gigant tropicheskii; zapiski korrespondenta. Mo-
skva, Molodaia gvardia, 1963. 158 p. (MIRA 17:2)

GAVRILOV, Yuriy Aleksandrovich, spets. korrespondent; ANTIFILM, L.,
red.

[Barcelona, Toledo, Madrid] Barcelona, Toledo, Madrid,
Moskva, Molodaia gvardiia, 1965. 141 p. (MIRA 18:12)

1. Spetsial'nyy korrespondent "Pravdy" (for Gavrilov).

IGNAT'YEV, Oleg Konstantinovich, zhurnalist; ANTIFINA, L., red.

[The Amazon as seen by a Moscovite] Amazonka glazami moskvicha. Moskva, Molodaia gvardiia, 1965. 252 p.
(MIRA 18:7)

MANDRUIN, A.; ANTIPIA, L., red.; KURLYKOVA, L., tekhn.red.

[Cities come off the production line] Goroda s konvejera.
Moskva, Molodais gvardiis, 1960. 16 p.

(Apartment houses) (Precast concrete construction) (MIRA 14:1)

PISARZHEVSKIY, Oleg; ANTIPINA, L., red.; GRIGOR'YEVA, Ye., tekhn. red.

[From eight to five] Ot vos'mi - k piati. Moskva, Izd-vo "Molo-
daia gvardiia," 1960. 16 p. (MIRA 14:7)
(Hours of labor)

ANTIPINA, L.

In the avant-garde of the struggle for the seven-year plan. Sov.
profsoiuzy 16 no.22;16-18 N '60. (MIRA 14:1)

1. Predsedatel' komiteta profsoyuza fabrika kommunisticheskogo
truda imeni Vorovskogo.
(Odessa—Clothing industry) (Socialist competition)

BAKASHOV, Pavel Romanovich; KITAIN, Valentin Semenovich; ANTIPINA, L.
redaktor; KUKOL'VA, L., tekhnicheskiy redaktor

[Grid square B-52. The path of the doomed] Kvadrat B-52, Tropoi
obrechennykh. [Moskva] Izd-vo TsK VKSM "Molodais gvardii."
1957. 143 p.
(Subversive activities)

SHURTAKOV, Semen; ANTIPIINA, L., red.; KURLYKOVA, L., tekhn. red.

[Grain of life] Zerno zhizni. Moskva, Izd-vo "Molodaia gvardiia," 1961. 16 p.
(Corn (Maize))

(MIRA 15:1)

VIRTA, Nik.; ANTIPIA, L., red.; KURLYKOVA, L., tekhn. red.

[Powerful grain] Moguchee zeryshko. Moskva, Izd-vo "Molodaia
gvardiia," 1961. 15 p. (MIRA 14:9)
(Grain)

RADOV, Georgiy; ANTIPINA, L., red.; KURLIKOVA, L., tekhn. red.

[At the threshhold of the eighth grain harvest] Na poroge vos'-
mogo khleba. Moskva, Izd-vo "Molodaia gvardiia," 1961. 15 p.

(MIRA 14:8)

(Grain) (Reclamation of land)

RUD', Dmitriy; ANTIPIA, L., red.; KURLYKOVA, L., tekhn. red.

[At the forefront] Na perednem kras. Moskva, Izd-vo "Molodaia
gvardiia," 1961. 16 p. (MIRA 14:9)

(Agriculture)

NOVIKOV, Semen; ANTIPINA, L., red.; KURLYKOVA, L., tekhn. red.

[Abundance is in our hands] Izobilie v nashikh rukakh. Moskva,
Izd-vo "Molodaiia gverdiia," 1961. 16 p. (MIRA 14:9)
(Collective farms)

VIRTA, Nik.; ANTIPIA, L., red.; KURLYKOVA, L., tekhn. red.

[Desired water] Zhelannia voda. Moskva, Izd-vo "Molodaia
gvardiia," 1961. 16 p. (MIRA 15:1)
(Irrigation)

ANTIPINA, L.V.

Soils of the Molotov Collective Farm and principles of their utilization.
Trudy Inst.biol.IAk,fil. AN SSSR no.1:28-44 '55. (MIRA 10:1)
(Magino-Kangalasskiy District -Soils)

DOZGROV, Nikolay Ivanovich, kand.tekhn.nauk; ANTIPINA, L.Ye., red.;
MAZEL', Ye.I., tekhn.red.

[Second supplement to the "English-Russian dictionary of radio
electronics and communications."] Dopolnenie (vtoroe) k Anglo-
russkому slovariu po radioelektronike i svissi. Moskva, Izd-vo
Gos.kom-ta Soveta Ministrov SSSR po ispol'zovaniyu atomnoi
energii, 1960. 68 p.

(MIRA 14:2)

(Radio--Dictionaries)
(English language--Dictionaries--Russian language)

"APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000101720004-6

Entitled:
Catalytic activity of aluminumates treated with zinc

APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000101720004-6"

ANTIPINA, N.V., studentka 6-go kursa

Some causes, the course and outcome of premature labor; according to hospital data. Zdrav.Kazakh. 16 no.10:23-26 '56. (MLRA 9:12)

1. Iz kafedry akushерства i ginekologii lechebnogo fakulteta (zav. - professor Ya.S.Klenitskiy) Kazakhskogo gosudarstvennogo meditsinskogo instituta imeni V.M.Molotova.

(INFANTS (PREMATURE)) (PREGNANCY, COMPLICATIONS OF)

ANTIPINA, S.

At the building exhibition. NTO no.9:20-21 8 '59.
(MIRA 13:1)

1. Zamestitel' predsedatelya oblastnogo pravleniya Nauchno-
tekhnicheskogo obshchestva stroitel'noy industrii, Sverdlovk.
(Sverdlovsk-Building)

"APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000101720004-6

APPROVED FOR RELEASE: 06/05/2000

CIA-RDP86-00513R000101720004-6"

USSR/Nuclear Physics - Molecular Spectra Feb 52

"Application of Influence Coefficients to Study of Oscillatory Spectra of Multibasic Molecules. I. Formulas to Find Force Distribution According to Molecular Bonds; Forms of Oscillations; and Interaction of Frequencies in Molecular Oscillations. II. Influence Coefficients, Frequencies, Oscillation Forms Force Distribution, and Analysis of Interaction Character of Frequencies in Acetylene and Deutero-Acetylenes," P.G. Maslov, S.A. Antipin, Leningrad

"Zhur Raspber i Teoret Fiz" Vol XXII, No 2,
pp 164-183

200702

USSR/Nuclear Physics - Molecular Spectra Feb 52
(Contd)

I. Derives formulas. II. System of influence coeff of acetylene is computed, and spectrum of basic frequencies, force distribution with respect to bonds, and oscillation forms is derived. Indebted to Prof M.A. Yel'yashhevich. Received 3 Apr 51.

200702

ANTIPIN, S. A.

USSR/Physics - Molecular Spectra,
Deuterium

Jun 52

"Oscillation Spectra and Coefficients of Influence
of Ethane and Deuterioethane Molecules," S. A.
Antipin, P. G. Maslov, Leningrad

"Zhur Elektr i Teoret Fiz" Vol XXII, No 6, pp 705-
715

Obtains a more accurate system of the potential-
energy consts $K_{i,j}^*$ of ethane C_2H_6 and deuterioethane
 C_2D_6 independently of the familiar system of
dynamic coeffs of these mols (B. I. Stepanov,

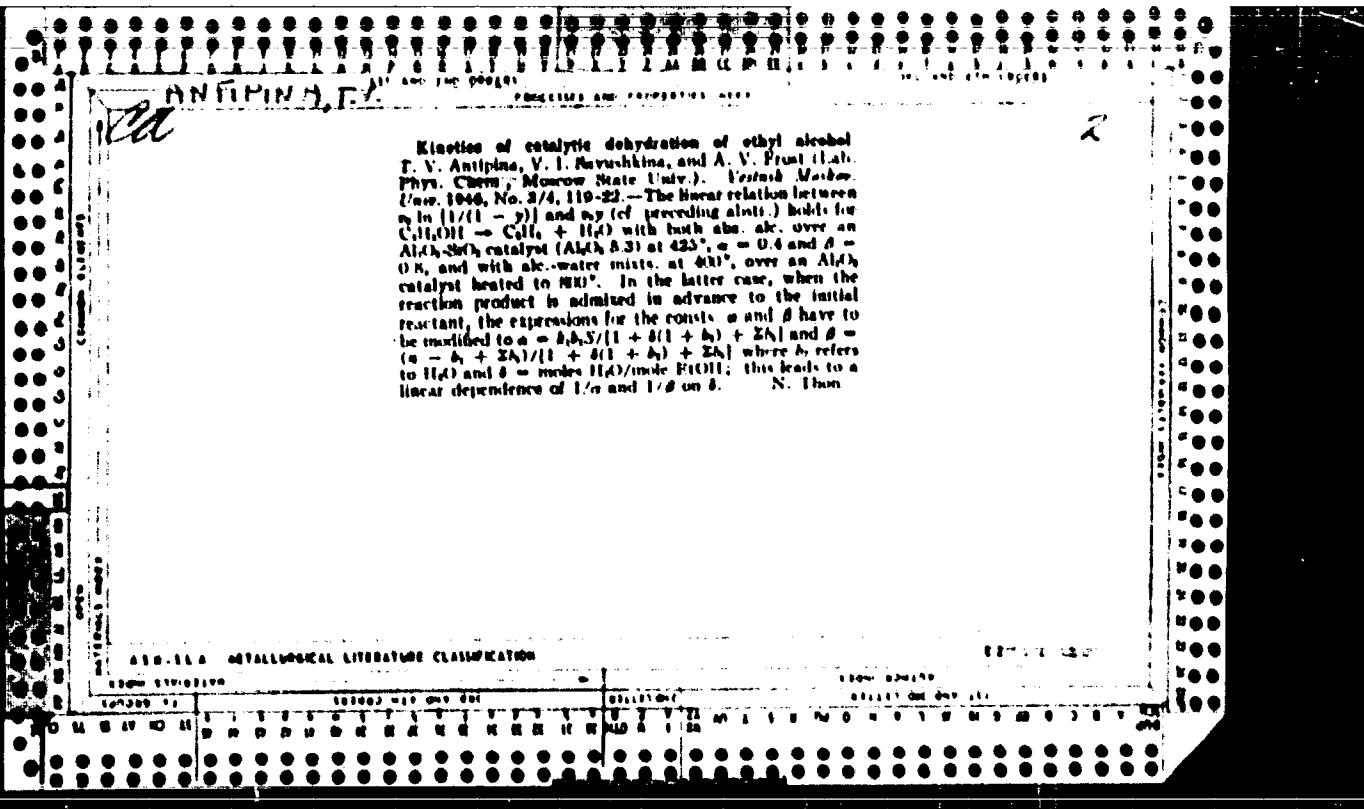
217295

"Zhur Fiz Khim" 15, 865, 1941). Obtains 1st derivs of
and expands the oscillation frequencies into terms
each of which depends only on a definite parameter.
Indebted to Prof M. A. Yel'yashov. Received 11 Jul
51.

217295

ANTIPINA, T.A.

M.V.Lomonosov Museum. Vop.ist.est.i tekhn. no.12:240 '62.
(Lomonosov, Mikhail Vasill'evich, 1711-1765--Museums, relics, etc.)



CA

HUTIMINA, T. I.

The catalytic activity of pure aluminum hydroxide. T.-V. Andrianov and A. V. Frost (Lomonosov State Univ., Moscow). *Compt. rend. acad. sci. U.R.S.S.* 80, 43-6 (1948); cf. *Bibl. C.A.* 31, 2079. Spectroscopically pure $AlCl_3$ was hydrolyzed with water vapor, the powder alumina mixed with sugar syrup, and 4 catalyst samples A were ignited at 400°, 410°, 420°, and 430°. Their activity for the dehydration of 90% $RuOH$ was studied at 373, 420, 433, and 430°. Variation of the space velocity from 2 to 8 millimeters/(ml. \times min.) changed the rate of decompos. only slightly. Dehydration rates for 400° and 430° are given, the max. being 277 cc. (S.T.P.) of CO_2 per min. per 1 cc. catalyst at 430°, space velocity 6.5, catalyst ignited at 373°. Ernst M. Cohn

A10-11A METALLURGICAL LITERATURE CLASSIFICATION

Antipina, I. V.

Sur. Sci.

Dissertation: "Kinetics of Dehydration of Ethyl Alcohol over Aluminum Oxide and
Its Relation to Adsorption of Substances Participating in the
Reaction."

22 June 19

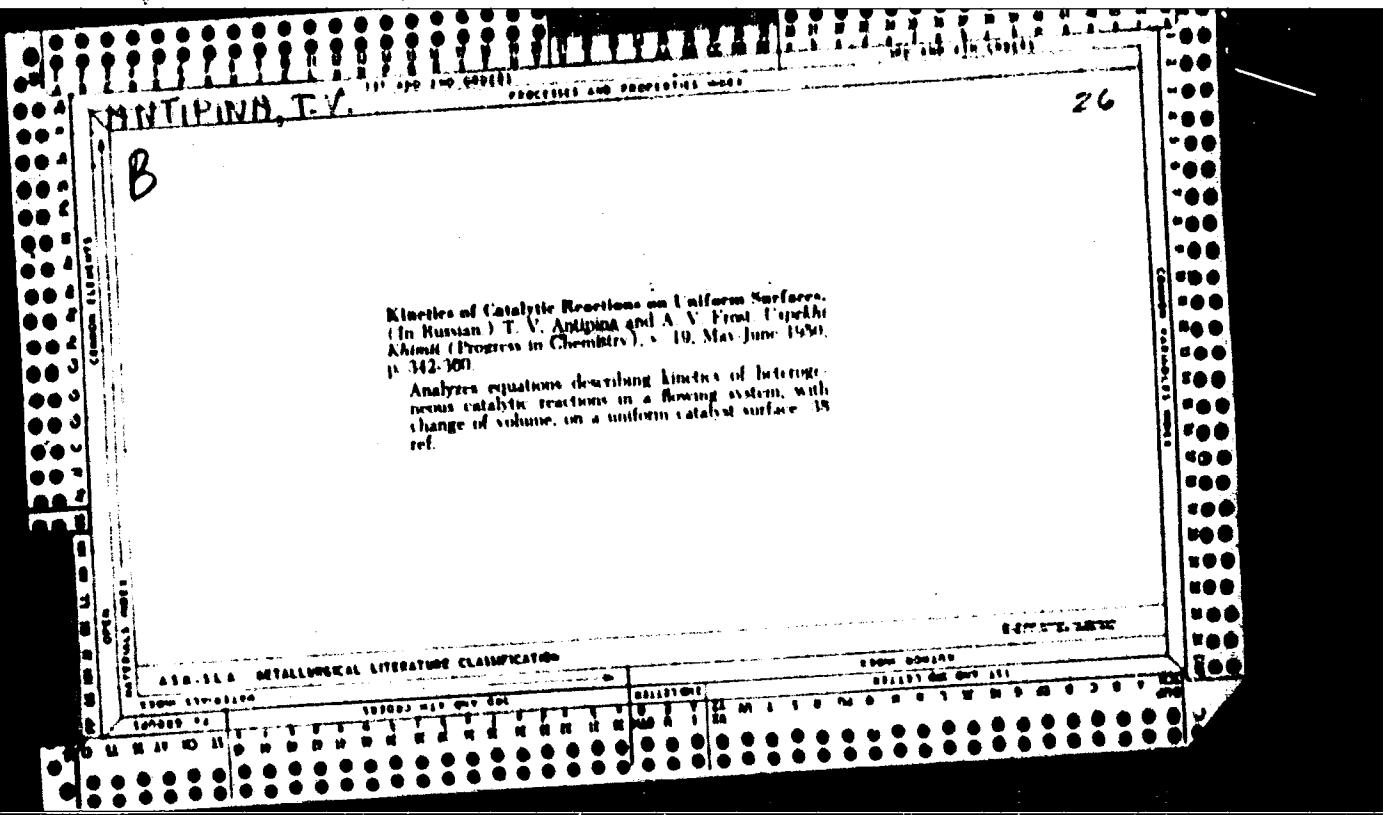
Moscow Order of Lenin State University M. V. Lomonosov.

SO Vecheryaya Moskva
Sum 71

CA
AVTIPINA, E.

Relation between the kinetics of heterogeneous reactions
and the adsorption on catalysts. I. Determination of the
adsorption coefficient of water on aluminum oxide from

kinetic data. T. V. Antipina and A. V. Prost (Moscow State Univ.). Vestn. Moskov. Univ. Ser. Fiz. Mat. i Fiz. Nauk No 3, 81-84 (1980).—The rate of the dehydrogenation $\text{EtOH} \rightarrow \text{C}_2\text{H}_4 + \text{H}_2\text{O}$ in a flow system at 280° on pure (alkali and alkaline-earth metal free) Al_2O_3 shows proportionality between v in $(\text{l}/(\text{l} - \gamma))$ and v_1/γ (v = speed velocity in millimoles/cc. catalyst (min), γ = degree of conversion = mole C_2H_4 /mole EtOH passed), i.e., follows the previously established equation $v \propto (\text{l}/(\text{l} - \gamma)) = \beta v_1 + a$, where a and β are independent of v and of γ . This equation describes a unimolecular reaction with Langmuir adsorption of one of the products. Advanced addn. of H_2O (2 moles/mole EtOH) shifts the exptl. straight line parallel to itself and so does addn. of A ; in other words, diln. with either H_2O or A does not change the slope which, in all cases, is $\beta = \text{const.} = 1.0$. From the exptl. graphs, $1/a$ increases linearly with the advance diln. of the reactant with either H_2O (product) or A (inert gas); e.g., H_2O , $\delta = 0, 0.178, 1.18, 3.18, 1/a = 4.04, 8.60, 13.00, 28.00$; A , $\delta = 0.83, 1.83, 3.83, 1/a = 8.33, 8.00, 17.00$. These data are used to det. k_1 (adsorption coeff. multiplied by the total pressure and the stoichiometric coeff.) of H_2O on the basis of the Langmuir isotherm, which gives $1/a_1 = (1/a_0) + k_1 D_1$, where the subscript 0 refers to absence of addend, the subscript 1 to advance diln. with one of the products (H_2O), a_1 moles/mole EtOH , and $D_1 = [1 + (k_1/\delta)]/S k_1 h_1$, where S = active surface of the catalyst, h_1 = rate const. of the surface reaction, and the subscript 1 refers to the reactant (EtOH). In diln. with an inert gas (A), practically unadsorbed on the catalyst, $D_1 = 1/S k_1 h_1$, and hence $k_1 = (D_1 - D_0)/D_0$. The values of D_1 and D_0 are given by the slopes of the straight lines of $1/a$ as a function of δ of A and of H_2O , resp. At 380° , $D_0 = 0.400$, $D_{\text{H}_2\text{O}} = 7.33$, hence $k_1(\text{H}_2\text{O}) = 17.3/\text{sim}$.
N. Thom



C.1

2

Connection between the kinetics of a heterogeneous reaction and adsorption on catalysts. T. V. Aglyamova and A. N. Ipatov (Leningrad State Univ., Leningrad). Zhur. Fiz. Khim. 24, 830-836 (1950). The kinetics of the catalytic dehydration of EtOH and also the adsorption of H_2O and EtOH vapors on Al_2O_3 are expressed by equations that assume (as 1st approximations) a uniformity in both catalyzing and adsorption surfaces (in the latter case, the adsorption of EtOH vapor at low pressures). The adsorption yields of the products of the dehydration of EtOH were determined by studying the rate of the heterogeneous catalytic reaction from the adsorption data. The adsorption and catalyzing centers are different, since the adsorption yields, calcd. from the kinetic data differ by a factor of 100 from the values found from the adsorption data. Paul W. Flory

CA
ANTIMINN, F. I.

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Relation between the kinetics of heterogeneous reactions and adsorption on catalysts. II. Determination of the adsorption coefficient of ethylene on aluminum oxide and its temperature dependence from kinetic data. T. V. Antimina and A. V. Prost (Moscow State Univ.). Vestn. Mosk. Univ., Ser. 8, No. 8, Sov. Fiz.-Mat. i Khim., No. 8, 68-73 (1951); cf. C.A. 45, 4341e.—The flow-system dehydration of $\text{EtO}(\text{f})$ to $\text{H}_2\text{O} + \text{C}_2\text{H}_4$, undil. or dilut. with C_2H_4 , or with A, obeys the kinetic law $r = \ln [(1/(1 - y)) - a + Ay]$, where r = fixed rate in millimoles/min./cc. catalyst, y = degree of conversion in millimole C_2H_4 produced/millimole $\text{EtO}(\text{f})$ passed, $1/a$ is proportional to the surface reaction rate const., and $A = 1.0$ (empirically). At 280°, with C_2H_4 added in advance in the amt. γ = millimoles/millimole reactant, $1/a = 0.86, 2.30, 4.28, 1/a = 12.80, 18.20, 30.30$, resp.; with A added, $a = 0.82, 1.55, 3.16, 5.80, 1/a = 8.20, 8.00, 11.80, 17.30$. At 415°, with C_2H_4 , $1/a = 6.55, 9.80, 20.0$; with A, $8.20, 4.82, 7.70, 14.20$. At 480°, with C_2H_4 , $8.61, 6.06, 10.0$; with A, $2.26, 3.57, 4.38, 7.18$. In all cases, $1/a$ increases linearly with δ . From the kinetic data, the adsorption coeffs. for C_2H_4 at 280, 415, 480°, are calculated to 16.0, 19.5, 11.0 atm.⁻¹, resp. The av. apparent activation energy is 14.1 kcal./mole, practically independent of δ .
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ANTIPINA, I.

Relation between the kinetics of heterogeneous reactions and the adsorption on catalysts. III. Temperature dependence of the desorption coefficient of water on aluminum oxide. T. V. Antipina and A. V. Furt (Moscow State Univ.), Russ. Mosh. Fiz. Chem. No. 10, 1959, p. 102; Zhur. Neorg. Khim. No. 6, 79, 87 (1951); cf. C.R. Acad. Sc. Paris No. 240, 2329 (1955).

Flow expts. of dehydration of KOH on Al_2O_3 were evaluated with the aid of the equation $v = \{1/(1 - y)\} = a + b/\delta$, where v = space velocity in millimoles/min./cc. catalyst, y = degree of conversion, and a and b are functions of the temp. only, independent of v and of y . The applicability of this equation is demonstrated by linear plots of v to $\{1/(1 - y)\}$ as a function of vy , and a and b are detd. from the graphs. In all cases, $b = 1$. The expts. were made with v varied between wide limits, and in the presence of H_2O or of argon as dilut. Data of $1/a$ at different degrees of dilut. δ (millimoles of diluent/millimole KOH in the original mist.) are: at 415°, H_2O , $\delta = 0.80, 2.10, 3.15, 1/a = 6.90, 10.80, 20.00$; argon, $\delta = 0.82, 1.32, 2.15, 3.30, 1/a = 3.33, 4.88, 7.70, 14.50$. At 480°, H_2O , $\delta = 0.20, 2.10, 4.20, 1/a = 0.82, 1.32, 2.15, 3.30$. The adsorption coeff., δ (atm.^{-1}) were detd. from the slopes of the linear graphs of $1/a$ as a function of δ with H_2O and with argon; the values of δ for H_2O , at 380, 415, and 480°, are 17.2, 14.6, and 13.2, and for CaI_2 , 16.0, 12.3, and 11.6. The mean apparent activation energy is 12.1 kcal./mole, practically independent of the degree of dilut. with argon.
N. Thom

1. ANTIPINA, T. V. and FROST, A. V.
2. USSR (600)
4. Adsorption
7. Study of the connection kinetics of heterogeneous reactions and adsorption on catalysts.
Vest. Mosk. un., 7 no. 8, 1952.
9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified.

ANTIPINA, T. V.

USSR/Chemistry - Adsorption, Catalysts 11 Jun 52

"A New Type of Relationship Between the Magnitude of Adsorption and Pressure," T. V. Antipina, A. V. Frost

"Dok Ak Nauk SSSR" Vol LXXXIV, No 5, pp 985 - 987

The sorption of ethyl alc and ethyl ether on pure aluminum oxide (to be used as a catalyst for the de-hydration of ethyl alc) was studied. At low pressures there is a rapid increase in the quantity of EtOH adsorbed with increasing pressure. As the pressure is increased, however, the amt that is adsorbed becomes const. Presented by Acad A. V. Topchiyev
18 Apr 52.

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ANTIPINA, T.V.; FROST, A.V., professor, redaktor [deceased]; GERASIMOV, Ya.I.,
professor, redaktor.

[Kinetics of chemical reactions; practical studies in physical chemistry]
Khimicheskaya kinetika; prakticheskie raboty po fizicheskoi shimi. Pod.
red. A.V.Frosta i I.A.I.Gerasimova. [Moskva] Izd-vo Moskovskogo universiteta,
1953. 42 p.
(Chemical reaction--Velocity)

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ANTIPINA, T. V.

USSR/Physical Chemistry - Kinetics, Combustion, Explosions, Topo-
chemistry, Catalysis.

B-9

Abs Jour: Referat. Zhurnal Khimii, No 2, 1958, 3907.

Author : T.V. Antipina, M.D. Sinitsyna.

Inst : Moscow University.

Title : Catalytic Activity of Aluminosilicates Treated with Alkali.

Orig Pub: Vestn. Mosk. un-ta. Ser. matem., mekhan., astron., fiz.,
khimi, 1957, No 1, 137-142.

Abstract: The dehydration kinetics of C_2H_5OH was studied at $p = 1$ atm
and 400° on following catalysts (C): industrial aluminosili-
cate C of Gudri [the translator does not know how this name
is spelled in English] (C_1), C_1 treated with 0.47 n NaOH solu-
tion until it contained 5.0% of Al_2O_3 and 12.5% of NaOH (C_2),
mixture of 16% of Al_2O_3 + 84% of SiO_2 (C_3), C_3 treated with 0.11
n NaOH solution until it contained 4.5% of Al_2O_3 and 6.6% of

Card : 1/2

-33-

ANTIPINA, T.V.; ISAYEV, O.V.

Catalytic activity of aluminum silicates treated with alkali.
Part 2 [with summary in English]. Zhur. fiz.khim. 31 no.9:
2078-2084 S '57. (MIRA 11:1)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
(Aluminum silicates) (Catalysts)